PATENT SPECIFICATION

DRAWINGS ATTACHED

1,048,101

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COMPLETE SPECIFICATION

Sealing Device for Doors and the like Closure Members

We, CHRISTIAN HOLZAEPFEL, JNR. and ANNA HOLZAEPFEL, both German Nationals, personally responsive partners of the firm Christian Holzaepfel K.G. of Ebhausen, Wuerttemberg, Germany, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates to a device for sealing doors and the like closure members.

According to the present invention, a sealing device for use as a dust, moth and sound proof seal between relatively movable parts of cabinets, doors and door frames or the like of wood, pressboard or the like, comprises a base strip whose width is defined by its parallel longitudinal edges, an anchoring portion extending from one surface of the base strip intermediate its longitudinal edges by a distance substantially greater than the thickness of the base strip, and a resiliently deformable lip of arcuate cross section connected to the base strip along one of its longitudinal edges, which lip extends over substantially the whole of the other surface of the base strip towards its other longitudinal edge but is not connected thereto such that a gap is left therebetween; the arrangement being such that when the sealing device is glued for example to the free edge or end face of a door with its anchoring portion inserted in a corresponding groove in the door edge or end face, and when the door is closed the lip is deformed so that the free edge thereof is forced to lie in contact with the surface of the base strip but returns to its original position when the door is opened.

The invention will be further described by way of example with reference to the accompanying drawings, in which:—

Fig. 1 shows a sealing device according to the present invention in perspective;

Fig. 2 shows a cross section through double door equipped with a sealing device of Fig. 1;

Fig. 3 shows a cross section through a closed double door equipped with two sealing devices; and

Fig. 4 shows the same double door open.

Referring to Fig. 1 a sealing device according to the invention comprises a base strip 10 of resiliently deformable material, such as, thermoplastic synthetic material or rubber, having on its under surface an anchoring portion 11 which extends longitudinally of the base strip 10 in the middle thereof and is preferably integral therewith. The portion 11 extends from the base strip 10 by a distance substantially greater than the thickness thereof and is adapted to be fitted in a slot or groove in the free edge or end face of a door and secured therein, such as by glueing. The width of the base strip 10 is defined by its parallel longitudinal edges and is preferably equal to the width of the door's end face to which the strip is also secured as by glueing. A lip 12 of arcuate cross-section is connected along one longitudinal edge of the strip 10 and extends over substantially the whole of the upper surface of the base strip towards the other longitudinal edge thereof but is not connected thereto such that a gap is left therebetween. The lip 12 is thicker at its connection with the base strip than at its free edge and consists of a material which is softer and more pliable than the base strip 10. The base strip 10 itself is of uniform thickness from the edge where it is connected with the lip 12 up to about the middle thereof whereafter it gradually tapers inwardly towards its other free edge. The anchoring portion 11 has saw-like teeth or serrations along each side as shown in the drawings.

The double door shown in cross section in

Fig. 2, is sealed when closed with a single sealing device 13 which is glued on the end face 14' of a door 14 with its anchoring portion 15 inserted in a groove 14''. No seal is attached to the end face 16' of the second door 16. The closed doors 14 and 16 abut against two stops 17 and 18 on the inside of an opening closed by the doors. As can be seen from the drawing, the end face of the door 14 is chamfered from outside to inside. The angle of slant α is 75° in the embodiment shown. When the door 14 is closed the curvature of the lip 13' of the sealing device 13 is slightly flattened against the joint area, and the free edge of the lip 12 lies on the upper surface of the sealing device 13. In the open position of the door, denoted by broken lines, the lip 12 returns to its original configuration.

The double doors 19 and 20 according to Figs. 3 and 4 are provided at their end faces with sealing devices 21 and 22, which are also glued on end faces sloping from outside to inside and are secured with their anchoring portions inserted in grooves in these end faces. In the closed position, the doors lie against stops 23 and 24 inside a door opening or frame and the lips 21' and 22' are supported against one another so that their curvatures are flattened at the place of contact and their free edges lie on the base strips, while when the doors are opened according to Fig. 4 they are separated from the base strips and spring back into the position shown.

WHAT WE CLAIM IS:—

1. A sealing device for use as a dust, moth and sound proof seal between relatively movable parts of cabinets, doors and door frames or the like of wood, pressboard or the like, seal sealing strip comprising a base strip whose width is defined by its parallel longitudinal edges, an anchoring portion extending from one surface of the base strip intermediate its longitudinal edges by a distance substantially greater than the thickness of the base strip, and a resiliently deformable lip of arcuate cross section connected to the base strip along one of its longitudinal edges, which lip extends over substantially the whole of the other surface of the base strip towards its other longitudinal edge but is not connected thereto such that a gap is left therebetween; the arrangement being such that when the sealing device is glued for example to the free edge or end face of a door with its anchoring portion inserted in a corresponding groove in the door edge or end face, and when the door is closed the lip is deformed so that the free edge thereof is forced to lie in contact with the surface of the base strip but returns to its original position when the door is opened.

2. A device as claimed in claim 1, in which the base strip is of uniform thickness from its edge connecting with the lip to at least half its width and then tapers across its remaining width.

3. A device as claimed in claim 1 or 2, in which the lip gradually decreases in thickness from its edge connected to the base strip to its free edge.

4. A device as claimed in claim 1, 2 or 3, in which the material of the lip is more pliable than the material of the base strip.

5. A device as claimed in any preceding claim, in which the anchoring portion extends longitudinally over the length of the base strip in the middle thereof.

6. A device as claimed in claim 5, in which the anchoring portion is formed integrally with the base strip.

7. A device as claimed in claim 6, in which the anchoring portion has saw-like teeth or serrations along each side.

8. An assemblage comprising a sealing device as claimed in any of the preceding claims and at least one door having a groove extending along its free edge or end face, the sealing device being secured to the door edge or end face with its anchoring portion inserted in the groove and with its base strip completely covering the door edge or end face, the width of the base strip being equal to the width of the door edge or end face.

9. An assemblage as claimed in claim 8, in which the door edge or end face to which the sealing device is secured slopes from outside to inside of the door.

10. A device for sealing doors and the like closure members, when closed, constructed substantially as herein described with reference to and as illustrated in Fig. 1 of the accompanying drawings.

11. An assemblage comprising a sealing device as claimed in claim 10 fitted to a door or double doors substantially as herein described with reference to and as illustrated in Figs. 2 and 3 or Fig. 4 of the accompanying drawings.

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1 SHEET *This drawing is a reproduction of the Original on a reduced scale*

Fig. 1

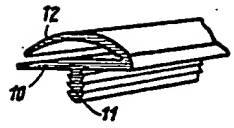

Fig. 2

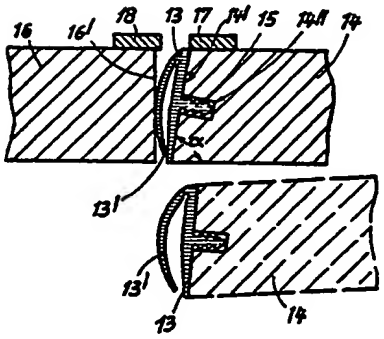

Fig. 3

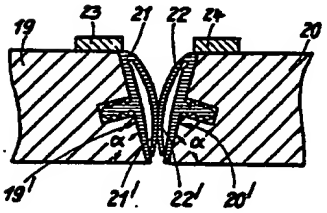

Fig. 4